

CLAIMS

1. A fluid delivery device having a valve for controlling a flow of a fluid, comprising a flow channel for the fluid, and a valve in the flow channel, wherein the valve operates in accordance with a pressure difference between the upstream side and downstream side of the valve caused by the flow of the fluid through the flow channel, allowing the fluid to flow when the pressure difference is lower than a prescribed value P_0 , and intercepting the fluid not to flow when the pressure difference is P_0 or more.

2. The fluid delivery device according to claim 1, wherein the valve is provided with an elastic body for taking at a prescribed position of the valve.

3. The fluid delivery device according to claim 1, wherein the valve allows the fluid to flow through the flow channel in a prescribed direction, whereas the valve allows the fluid to flow in a direction reverse to the prescribed direction when the pressure difference lower than a prescribed pressure P_0 but intercepts the fluid not to flow when the pressure difference is P_0 or more.

4. The fluid delivery device according to claim

1, wherein the device comprises a first flow channel
for delivery of the fluid, and a second flow channel
and a third flow channel branched from the first flow
channel, and the second flow channel is provided with
5 the valve, the third flow channel is connected to a
fluid element for analysis of the fluid, wherein the
fluid is delivered from the first flow channel to the
second flow channel when the pressure difference is
lower than P_0 , and the fluid is delivered from the
10 first flow channel to the third flow channel when the
pressure difference is not lower than P_0 .

5. The fluid delivery device according to claim
4, wherein resistance to the flow in the third flow
15 channel is higher than resistance to the flow in the
second flow channel when the valve is open.

6. The fluid delivery device according to claim
5, wherein the fluid element is a column of liquid
20 chromatography.

7. The fluid delivery device according to claim
6, wherein the column for liquid chromatography is
provided for analysis of a chemical substance
25 contained in the fluid.

8. The fluid delivery device according to claim

6, wherein the column for liquid chromatography is a column for analysis of a protein contained in the fluid.

5 9. The fluid delivery device according to claim
4, wherein the fluid element is a column of liquid chromatography.

10 10. The fluid delivery device according to
claim 9, wherein the column for liquid chromatography
is a column for analysis of a chemical substance
contained in the fluid.

11. The fluid delivery device according to
15 claim 9, wherein the column for liquid chromatography
is a column for analysis of a protein contained in
the fluid.

12. The fluid delivery device according to
20 claim 1, wherein the flow channel is constituted of
four flow channels and an intersection thereof, a
first valve being provided in one of the four flow
channels and a second valve is provided on another
one of the four flow channels; the first valve
25 allowing the fluid to flow toward the intersection,
and the second valve operates in accordance with a
pressure difference between the upstream side and

downstream side of the valve caused by the flow of the fluid, allowing the fluid to flow when the pressure difference is lower than a prescribed pressure P_0 , and intercepting the fluid not to flow when the 5 pressure difference is P_0 or more.

13. The fluid delivery device according to claim 12, wherein the device is further provided with a fluid element for analysis of the fluid, and the 10 fluid in the intersection is delivered to the fluid element when the pressure difference is not lower than P_0 .

14. The fluid delivery device according to claim 1, wherein the valve has a movable electrode provided on a movable part capable of being actuated by the pressure difference, a fixed electrode provided in opposition to the movable electrode, and a detection means for detecting electrostatic 20 capacity between the movable electrode and the fixed electrode; and the flow of the fluid is controlled according to the detected electrostatic capacity.

15. The fluid delivery device according to claim 1, wherein the valve has a movable electrode provided on a movable part capable of being actuated by the pressure difference, a fixed electrode 25

provided in opposition to the movable electrode, and
a detection means for detecting contact of the
movable electrode with the fixed electrode; and the
flow of the fluid is controlled by the detecting
5 means.

16. A fuel cell having a fuel storing section
for storing a fuel, a power generating section for
generating electric power by use of the fuel, and a
10 valve provided between the fuel storing section and
the power generating section, wherein the valve
operates in accordance with a pressure difference
between the upstream side and downstream side of the
valve caused by the flow of the fluid through the
15 flow channel, allowing the fluid to flow when the
pressure difference is lower than a prescribed
pressure P_0 , and intercepting the fluid not to flow
when the pressure difference is P_0 or more.